ries are emptied after the walls have dried over the wax forms, which were true casts of the natural cavities, their septa and valves, &c. The parietes themselves, being impregnated with turpentine, lose little of their natural thickness. The parietes may now be either cut open or rendered transparent with the aid of resins, so that the internal structure can be examined. Another method of prepation, somewhat less advantageous, is to open the auricles, ventricles, and bloodvessels, then fill them up with cotton, or to leave them unopened, but to fill them with proof spirit, afterwards suspending them in the same medium. The water contained in the heart's tissue is attracted by the spirit; the walls thus become stiffened, and retain their form even after the alcohol has been removed. Preparations of this kind are to be met with in Hunter's museum.

On examining a heart thus prepared, the first observation we make is that the left auricle forms an oblong pouch, having almost a horizontal position, its right extremity encroaching upon the domain of the right auricle, the situation of which is nearly vertical. At the point where the two pouches meet, the septum of the auricles developes itself with its inferior portion almost lying across the mouth of the vena cava. This is the exact spot which in the fœtus is occupied by the foramen ovale and its border, and the partition itself consists of the thickened valve, by the adhesion of which with the neighbouring parts the foramen ovale was closed up. The upper part of the septum forms the imperfect septum auricularum in the fœtus. If the auricle be opened, the left being filled up, we discover a protuberance presented by the upper part of the border of the obliterated valve. This, together with the convexity formed above it by the septum, probably constitutes the tubercle mentioned by Lower.

The arrangement of the septum in its different parts has the greatest influence over the functions of the heart under the various circumstances of life. If the body be at rest, the blood flows gently from the lower parts into the right auricle, but if it be pumped up by hard breathing, as in those affected with dyspnœa, the influx becomes far more hurried. It is still more accelerated by an uninterrupted exercise of the muscles of the lower extremities, as the muscles then press on the parietes of the large veins, and thus force the blood onwards towards the auricle, whilst its retrogression is prevented by the valves. The curvature of the septum, the tendency of the circular muscles around the foramen ovale, and the curvatures at the entrance of the venæ cavæ, prevent the blood from penetrating from the inferior into the superior venæ cavæ, or vice versâ. If it were otherwise, apoplexy would easily occur in the former instance, and injurious effects on the liver in the second.—*B. and F. Med. Rev.* April, 1837, from *Kgl. Wetensk. Acad. Handlinger*, 1835.

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5. *Apparent Hermaphroditism. Sexual connexion through the canal of the urethra.*—At a recent meeting of the Royal Academy of Medicine of France, M. Bally presented, for the inspection of the members, a young German, affected with a curious organization of the sexual parts, causing the individual to have been regarded, for several years, as a female, though in reality a male. The scrotum of this young person exhibits a deep furrow along the median line, which gives the part a good deal of the appearance of the labia majora in the female, the substance of each labium, or rather demi-scrotum, contains a hard, oval body, well developed (the *testicle*). At the superior commissure of the furrow we observe an elongated body, about an inch and a half in length, resembling a large clitoris, and capable of erection—this is a portion of the root of the penis. Beneath the rudimentary penis we find an opening leading into a canal that easily received the finger; this canal is prolonged upwards towards the bladder, and offers some resemblance to a vagina; when a catheter is introduced through the opening, it penetrates into the bladder. The person, also, affirms that the urine naturally flows through the same orifice. The canal, then, is nothing else than an urethra, enormously distended during the act of copulation, to which this individual has voluntarily submitted himself for several years, on the supposition that he was a female. In fact, the general appearance is completely feminine. He was baptized and brought up as a female; presents no trace of beard; his form is delicate and agreeable; his voice soft, &c.

The individual acknowledges having accorded his favours to various persons of the male sex, whose embraces he sought with avidity. The effect of the first connexions which he had, was to force in the membrane surrounding the orifice of the urethra, and thus form a *cul de sac*, or funnel-shaped depression. At length the orifice of the canal was opened by the introduction of a small penis, and gradually the canal itself assumed its present dimensions, viz., those of a small vagina. He further affirmed that during the act of copulation, the rudimentary organ enters into a state of erection, and that the friction produces a perfect ejaculation of the seminal fluid. Up to the age of twenty years, he considered himself, as we have mentioned, to be a girl. At about that time, however, an inguinal hernia, with which he was affected, becoming strangulated, the genital organs were examined by a surgeon, and his true sex discovered. This was followed by a certain revolution in his feelings, the petticoat was immediately thrown aside with disdain, and the newly-baptized man would fain have a mistress, but here nature refused all assistance. His attempt at active copulation was all vain, and he was obliged, much against his pride, to return to his old habits and former acquaintances. It is a fact, worthy of remark, that the testicles had remained concealed in the abdomen up to the period of his being operated on for the hernia. This, doubtless, contributed a great deal to the error of sex.—*Gazette des Hopitaux*, No. 11.

GENERAL ANATOMY AND PHYSIOLOGY.

6. *Ciliary Motions in Man.*—In our preceding number, (p. 196,) we gave an account of the discovery, by Purkinge, of ciliary motions in the cavities of the brain, and of the observations of Valentin on the same subject. Dr. C. T. Von Siebold, we learn from an article in a recent number of our esteemed cotemporary the *British and Foreign Medical Review*, has continued the investigations of the experimentors just named, and has added some facts which he has noticed, respecting the existence of the vibrating cilia upon the mucous membranes in man. He found these cilia upon the whole surface of a nasal polypus, one hour after its removal from an adult. The length of these ciliæ was 0.0028 and 0.0022 of an English line. The motions of the cilia upon one polypus which was examined, were found to be quite regular in their rhythm: in some parts they moved backwards and forwards 300 times, in others 320 times, in others 190 times, in a minute. The movements were always in the same direction; and, when once they ceased, were never resumed. By a very accurate examination, M. Siebold says that he has ascertained that each cilium curves its free extremity towards the part to which it moves, and that small globules of mucus, when in the vicinity of this oscillating body, are thus propelled in the same direction as the curve of the cilia. On condylomata at the entrance of the vagina no cilia could be discovered. They were also not found on the bronchial mucous membranes of those who had died of pneumonia, or of those who had suffered before death from a copious bronchial mucous secretion. In warm weather, also, it is useless to look in the human corpse for the cilia upon mucous membranes. M. Siebold has examined other membranes without finding any cilia; e. g. synovial membranes, sheaths of tendons, the internal surface of arteries and veins, that also of the vessels of the placenta, as well as serous membranes in animals the mucous membrane of whose bronchial apparatus presented an abundance of cilia. M. Siebold recommends all those who are anxious to examine this phenomenon to first experiment upon bivalves, (Unio pictorum, Anodonta anatina, Cyclas cornea;) for in them the cilia are most evident and their motions most easily recognised, abounding as they do upon their gills, tentacula, intestinal canal, &c. Having once witnessed the structure in these animals, it will be readily ascertained in man and other animals.—*Medicinische Zeitung*, No. 28, 1836.

7. *Period during which divers can stay under water.*—The *Magazine of Natural History*, for December last, contains an interesting article on this subject by Dr. Lefevre, a French navy surgeon. Very extraordinary statements have been long current, as to the length of time that divers can remain submerged, and their falsity seems now to be established by the careful observations of Dr. Lefebre. When stationed in the roads of Navarin, Dr. L. noted on three occasions, the pe-